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ABSTRACT

To examine library usage by faculty and students in the Schools of Engineering at Purdue University, data was analyzed from a sample of 12,000 loans during a three month period. User level (graduate student, undergraduate, faculty, or staff) and subject of borrowed material as indicated by Dewey Decimal Classification were examined for each major engineering discipline. Results indicated highest percentage of loans in Technology and Pure Science literature. Graduate students accounted for the highest percentage of loans among users. Data and tables for each engineering discipline are provided. Appended are summary tables and figures, including graphs of user levels for the most read subjects. (Author/KP)

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LIBRARY LOANS TO THE SCHOOLS OF ENGINEERING

RDU 77-01

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LIBRARY LOANS TO THE SCHOOLS OF ENGINEERING

ABSTRACT

The purpose of this study was to examine library usage by faculty and students in the Schools of Engineering at Purdue University. From a sample of approximately 12,000 loans made during a three month period in 1975, data was analyzed to determine user level (Graduate Student, Undergraduate, etc.) and subject of material borrowed (Dewey Decimal Classifications) for each major discipline in engineering. The report contains data for each engineering discipline giving user level percentages of use, subject areas of high use concentration, together with a histogram giving the user level breakdown for the most heavily read subjects. The report also contains summary tables giving information on library loans to each discipline and user group by subject categories.

The general results indicated distinct similarities in the use of Technology and Pure Sciences literature. These areas together accounted for between 62 and 93 percent of all loans, depending upon the discipline. Generally, Graduate Students accounted for the highest percentage of loans, followed by Undergraduates, Faculty, Staff, and Others.

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1. INTRODUCTION

With the opening of the new Potter Engineering Center and the consolidation of six Engineering Libraries, it is an appropriate time to examine the library usage patterns of the faculty and students associated with the Schools of Engineering. Although the new library represents a single entity, there is still a distinct need for data which describes similarities and differences among faculty and students in the various fields of Engineering. Awareness of these facts may influence decisions made in the administration of the library to enhance services provided to those in the Engineering profession.

One of the areas examined in the study is similarities and differences among schools with specific regard not only to use of materials in the subject areas of Engineering, but also in support areas such as Physics and Mathematics. The study focuses on loans of material to determine high usage areas.

In addition, "non-traditional" areas, such as Interdisciplinary Engineering, are examined and compared with traditional areas to see whether significant differences exist. Special needs also are observed for Freshman Engineering.

This study also looks at patterns of use for Faculty, Graduate Students and Undergraduates to determine quantity and subject areas of greatest use. Patterns are compared for similarity and consistency among schools.

2. METHODOLOGY

Data for this study was collected as part of a larger circulation study done in 1975 in conjunction with the Libraries and Audio-Visual Center Cost Allocation Study (RDU 76-02). For the period February 1 through April 30, 1975, check out slips were collected for a sample of approximately 100,000 loans from all libraries on the West Lafayette campus. This data was keypunched and copied onto a magnetic tape and run at Administrative Data Processing Center (ADPC). Data collected included major department of user, user level (Faculty, Graduate, Undergraduate, etc.) and call number, together with other information such as check out date, etc., with which we were not concerned in this study. Of this sample of about 100,000 loans, the number checked out by persons associated with the Schools of Engineering approximated 12,000.

While the all-campus circulation study focused on usage of particular libraries, the Engineering study focuses only on consumers from the Schools of Engineering, regardless of libraries used. This study is also more oriented toward looking at specific subject areas as described by the system and distilling them as finely as necessary to determine the interests of the various schools.

The magnetic tape containing all of the samples was copied for use on the CDC 6500 at the Purdue University Computing Center. A program called Crosstabs, a subprogram of SPSS (Statistical Package for the Social Sciences)[1], was used to analyze the data.

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[1] Nie, Norman H., et al, Statistical Package for the Social Sciences, 2nd edition, New York, McGraw-Hill, 1975.

Initially the data were cross-tabulated truncating the call numbers into the broad subject areas (See Appendix C for listing of Dewey Decimal classifications) giving a table for each school showing User Level (Faculty, Graduate, Undergraduate, Staff, and Other) and call number.

These tables were analyzed for each school and concentrations were identified in certain broad subject classifications. With a few exceptions this was done by locating between two and four categories, each of which accounted for over 10% of the distribution for that particular school. After these were identified a second Crosstabs was run on each school individually to further distill the concentration into units.

On the basis of this data, a section for each school was prepared giving: a) User level distribution of the total loans, b) breakdown of the entire distribution with emphasis on the specially identified areas, c) a graphic representation of the total distribution giving user level percentages for the high concentration areas. Tables were also prepared (see Appendix A) which summarize data on total distribution and distribution in the Pure Sciences and Applied Science and Technology. In addition, graphs were constructed to illustrate the distributions (see Appendix B) and a list of the 100 Divisions of the Dewey Decimal Classification System was also included for the convenience of the reader (see Appendix C).

3. SUMMARY

In examining the Schools of Engineering, a number of common characteristics become apparent. The most obvious similarity is the high percentage of loans represented by the Pure Sciences (500) and Technology (600) classifications. Except for Freshman Engineering, the percentage of total loans accounted for by these two areas ranged from 62.3% to 93.4%.

Within these categories, further similarities were found. In most cases, Engineering and Allied Operations (620 division) represented a significantly high proportion of the loans in the 600 area, averaging 30% of all loans for all schools. In ten of the eleven Schools (or Departments) studied, the percentage of the 620 classification ranged from 15.2% to 36.1% of all loans.

Within the Pure Sciences (500), Mathematics (510) and Physics (530) represented relatively high concentrations of loans. Table A.6 summarizes the 500 division for all Schools. When Mathematics was analyzed into units, the greatest number of loans for all Schools was concentrated in General Math (510), Algebra (512), Calculus and Differential Equations (517) and Probabilities and Applied Mathematics (519).

The proportion of loans by various users within Schools (Faculty, Graduate Students, Undergraduate Students, Staff, and Other) was highly consistent. Except for Engineering Administration and Freshman Engineering, graduate students accounted for the highest percentage of loans, followed by undergraduates, faculty, staff, and other.

The major differences between Schools in the subject areas of materials borrowed was closely related to the major subject concentration of the school. For example, Chemical and Related Technologies (660) was of

greatest interest to those in Materials Engineering (24.2% of the school sample) and Chemical Engineering (30.4% of the school sample). The other division in the 600 area heavily used by one school was Managerial Services (650) which represented 20.8% of the school sample in Industrial Engineering.

In the Pure Sciences area, of special interest to those in Chemical Engineering and Materials Engineering was Chemistry and Allied Sciences (540), which accounted for 24.2% and 22.6% of their respective schools' samples.

In Freshman Engineering, there was, as would be expected, a greater number of loans in the Social Sciences since students are taking necessary core courses of the Freshman Program. Loans to all users in Engineering in the Social Sciences were 9% of total loans. The percentage of loans in the Social Sciences was significantly higher for Industrial Engineering and Interdisciplinary Engineering at 20% and 15% respectively. The distribution within the Social Sciences for Industrial Engineering was fairly balanced with the exception of a significantly higher interest in Economics. In Interdisciplinary Engineering, the loans in Law and Commerce were slightly higher than other areas of the Social Sciences.

Following are eleven separate sections for each School or department giving specific information on their library loans during the sample period. For each school or department, specific usage figures are given for 1) user level, and 2) major subject areas of loans. Figures showing distribution of broad subject classifications with user proportions shown for major concentration areas are found in Appendix B.

4. SCHOOLS OF ENGINEERING ADMINISTRATION

From a sample of 112 loans to the members of the Administration of the Schools of Engineering (Faculty, Graduate Student, Staff, and Other), the following results were found:

Of the total sample, the Faculty accounted for 80% of the loans, Graduate Students 1%, Staff 15% and Other 4%.

In general, four subject areas, Pure Sciences, 28.6%, Technology and Applied Sciences, 20.5%, Arts, 13.4%, and Literature, 20.5%, represented approximately 83% of the loans to the members of the department.

In these divisions the chief concentrations were:

Table 4.1

Physics

530 (17.8%)

Classification	No. of Loans
530 Physics	3
531 Mechanics	1
532 Mechanics of fluids	1
533 Mechanics of gases	0
534 Sound and related vibration	6
535 Visible light and paraphotic	5
536 Heat	2
537 Electricity and electronics	0
538 Magnetism	0
539 Modern physics	2
	20

Table 4.2

Engineering and Allied Operations

620 (15.2%)

Classification	No. of Loans
620 Engineering and allied operations	7
621 Applied physics	3
622 Mining engineering and related	0
623 Military and nautical engineering	1
624 Civil engineering	0
625 Railroads, roads, highways	0
626 Waterways	0
627 Hydraulic engineering	0
628 Sanitary engineering	0
629 Other branches of engineering	6
	17

Table 4.3

Photography and Photographs

770 (13.4%)

Classification	No. of Loans
770 Photography and photographs	8
771 Apparatus, equipment, materials	1
779 Collections of photographs	6
	15

Table 4.4

Literature of Other Languages

890 (12.5%)

Classification	No. of Loans
891 East Indo-European and other languages	14

The remaining 17% was represented by:

000 Generalities	2.7%
100 Philosophy	1.8%
300 Social Sciences	2.7%
400 Language	6.2%
900 General Geography and History	3.6%

Figure B-1, page 53, shows the user level breakdown for the four significant fields.

5. THE SCHOOL OF AERONAUTICS AND ASTRONAUTICS

From a sample of 1074 loans to the members of the School of Aeronautics and Astronautics (Faculty, Graduate Student, Undergraduate, Staff and Other), the following results were found:

Of the total sample, the Faculty accounted for approximately 13% of the loans, Graduate Students 43%, Undergraduates 37%, Staff 6%, and Other 1%.

Two broad subject classes, Technology and Applied Sciences 52.5%, and Pure Sciences 29.4%, represented approximately 81.9% of the loans to the members of the department.

In these divisions the chief concentrations were:

Table 5.1

Mathematics

510 (10.9%)

Classification	No. of Loans
510 Mathematics	28
511 Generalities	1
512 Algebra	4
513 Arithmetic	0
514 Topology	0
515 Analysis	5
516 Geometry	1
517 Calculus (Differential and Integral)	48
518 Unassigned	0
519 Probabilities and applied mathematics	30
	117

Table 5.2

Physics

530 (14.8%)

Classification	No. of Loans
530 Physics	32
531 Mechanics	27
532 Mechanics of fluids	41
533 Mechanics of gases	21
534 Sound and related vibrations	7
535 Visible light and paraphotic	9
536 Heat	17
537 Electricity and electronics	0
538 Magnetism	3
539 Modern physics	2
	159

Table 5.3

Engineering and Allied Operations

620 (49.0%)

Classification	No. of Loans
620 Engineering and allied operations	136
621 Applied physics	63
622 Mining engineering and related	6
623 Military and nautical engineering	13
624 Civil engineering	26
625 Railroads, roads, highways	3
626 Waterways	0
627 Hydraulic engineering	0
628 Sanitary and municipal engineering	2
629 Other branches of engineering	277
(includes):	526
1) Aerospace engineering	
2) Motor land vehicles - cycles	
3) Air cushion vehicles, (ground effect machines, hovercraft)	
4) Astronautics	
5) Automatic control engineering	

The remaining 18.1% was represented by:

000, 100, 200, 400 Generalities Philosophy, Religion, Language	2.0%
300 Social Sciences	7.5%
700 Arts	3.0%
800 Literature	3.4%
900 General Geography and History	2.2%

Figure B-2, page 54, shows the user level breakdown for three significant fields. In two out of three categories discussed (Technology and Pure Sciences), Graduate Students were the heaviest users, followed by the Undergraduates, Faculty, Staff and Others. However, this pattern was not consistent for the Social Sciences, in which Undergraduates accounted for over 50% of the loans.

6. THE SCHOOL OF CHEMICAL ENGINEERING

From a sample of 1050 loans to the members of the School of Chemical Engineering (Faculty, Graduate, Undergraduate, Staff, and Other), the following results were found:

Of the total sample, the Faculty accounted for 12% of the loans, Graduate Students 62%, Undergraduates 22%, and Staff 4%.

Two broad classes, Technology and Applied Sciences, 42.4%, and Pure Sciences, 51.0%, represented approximately 93.4% of the loans to the members of the department.

In these divisions, the chief concentrations were:

Table 6.1

Chemical and Related Technologies

660 (30.4%)

Classification	No. of Loans
660 Chemical and related technologies	222
661 Industrial chemicals	7
662 Explosives, fuels, related products	30
663 Beverage technology	1
664 Unassigned	0
665 Industrial oils, fats, waxes, gases	14
666 Ceramic and allied technologies	1
667 Unassigned	0
668 Other organic products	28
669 Metallurgy	16
	319

Table 6.2

Chemistry and Allied Sciences

540 (24.2%)

Classification	No. of Loans
540 Chemistry and allied sciences	18
541 Physical and theoretical chemistry	148
542 Unassigned	0
543 General Analysis	1
544 Qualitative analysis	8
545 Quantitative analysis	3
546 Inorganic chemistry	37
547 Organic chemistry	39
548 Unassigned	0
549 Unassigned	0
	254

Table 6.3

Physics

530 (12.3%)

Classification	No. of Loans
530 Physics	19
531 Mechanics	6
532 Mechanics of fluids	46
533 Mechanics of gases	5
534 Sound and related vibrations	1
535 Visible light and paraphotic	5
536 Heat	33
537 Electricity and electronics	4
538 Magnetism	1
539 Modern physics	9
	129

Table 6.4

Mathematics

510 (9.1%)

Classification	No. of Loans
510 Mathematics	8
511 Generalities	2
512 Algebra	3
513 Arithmetic	1
514 Unassigned	0
515 Analysis	4
516 Geometry	2
517 Calculus (integral and differential)	45
518 Unassigned	0
519 Probabilities and applied mathematics	31
	96

Table 6.5

Engineering and Allied Operations

620 (7.5%)

Classification	No. of Loans
620 Engineering and allied operations	16
621 Applied physics	36
622 Mining engineering and related	5
623 Unassigned	0
624 Unassigned	0
625 Railroads, roads, highways	1
626 Waterways	0
627 Hydraulic engineering	2
628 Sanitary and municipal engineering	13
629 Other branches of engineering	6
	79

The remaining 6.6% was distributed among:

000 Generalities	.2%
100 Philosophy	.7%
200 Religion	.4%
300 Social Sciences	2.3%
400 Language	.1%
700 Arts	.3%
800 Literature	1.4%
900 General Geography and History	1.0%

Figure B-3, page 55, shows the user level breakdown for the two most significant fields. In both cases the Graduate Students were the heaviest users, followed by the Undergraduates, Faculty, and Staff.

7. THE SCHOOL OF CIVIL ENGINEERING

From a sample of 2231 loans to members of the School of Civil Engineering (Faculty, Graduate Student, Undergraduate Student, Staff, and Other) the following results were found:

Of the total sample, the Faculty accounted for 11% of the loans, Graduate Students 50%, Undergraduates 33%, Staff 5%, and Other 1%.

Two broad classes, Technology and Applied Sciences, 54.8%, and Pure Sciences, 21.3%, represented approximately 76.1% of the loans to the members of the department. In these divisions the chief concentrations were:

Table 7.1

Mathematics

510 (7.5%)

Classification	No. of Loans
510 Mathematics	28
511 Generalities	1
512 Algebra	11
513 Arithmetic	1
514 Topology	0
515 Analysis	4
516 Geometry	0
517 Calculus (differential and integral)	32
518 Unassigned	0
519 Probabilities and applied mathematics	91
	168

Table 7.2

Engineering and Allied Operations

620 (35.5%)

Classification	No. of Loans
620 Engineering and applied operations	200
621 Applied physics	32
622 Mining engineering and related	21
623 Military and nautical engineering	4
624 Civil engineering	203
625 Railroads, roads, highways	100
626 Waterways	2
627 Hydraulic engineering	30
628 Sanitary and municipal engineering	178
629 Other branches of engineering	22
	792

A third area, Social Sciences (300), accounted for 12.5% of the circulation but no major concentration was apparent in this classification. The remaining 11.4% was distributed among:

000 Generalities	.7%
100 Philosophy	1.0%
200 Religion	.2%
400 Language	.6%
700 Arts	5.3%
800 Literature	1.7%
900 General Geography and History	1.8%

Figure B-4, page 56, shows the user level breakdown for the three significant fields. In two out of the three categories discussed, Technology, and Pure Sciences, it was found that the Graduate Students were the heaviest users, followed by the Undergraduates, Faculty, Staff, and Others. However, this pattern was not consistent for the Social Sciences, in which the Undergraduates accounted for over 50% of the loans.

8. THE SCHOOL OF ELECTRICAL ENGINEERING

From a sample of 2342 loans to the members of the School of Electrical Engineering (Faculty, Graduate, Undergraduate, Staff, and Other), the following results were found:

Of the total sample, the Faculty accounted for approximately 13% of the loans, Graduate Students 54%, Undergraduates 29%, and Staff 4%.

Two broad classes, Technology and Applied Sciences, 28.7%, and Pure Sciences, 46.2%, represented 74.9% of the loans to the members of the department.

In these divisions, the chief concentrations were in the following areas:

Table 8.1

Mathematics

510 (15.5%)

Classification	No. of Loans
510 Mathematics	74
511 Generalities	12
512 Algebra	35
513 Arithmetic	0
514 Topology	0
515 Analysis	11
516 Geometry	4
517 Calculus (differential and integral)	112
518 Unassigned	0
519 Probabilities and applied mathematics	114
	362

Table 8.2

Physics

520 (11.0%)

Classification	No. of Loans
530 Physics	67
531 Mechanics	23
532 Mechanics of fluids	5
533 Mechanics of gases	2
534 Sound and related vibrations	19
535 Visible light and paraphotic	8
536 Heat	4
537 Electricity and electronics	95
538 Magnetism	23
539 Modern physics	11
	257

Table 8.3

Engineering and Allied Operations

620 (36.1%)

Classification	No. of Loans
620 Engineering and allied operations	41
621 Applied physics	689
622 Mining engineering and related	0
623 Military and nautical engineering	6
624 Civil engineering	0
625 Railroads, roads, highways	6
626 Waterways	0
627 Hydraulic engineering	0
628 Sanitary and municipal engineering	5
629 Other branches of engineering	98
	845

The remaining 25.1% was distributed among:

000 Generalities	6.4%
100 Philosophy	2.8%
200 Religion	1.3%
300 Social Science	5.8%
400 Language	.6%
700 Arts	2.7%
800 Literature	3.4%
900 General Geography and History	2.1%

Figure B-5, page 57, shows the user breakdown for the two most significant fields, Technology and Applied Sciences, and Pure Sciences. In both cases, the Graduate Students were the heaviest users, followed by the Undergraduates, Faculty, and Staff.

9. FRESHMAN ENGINEERING

From a sample of 1191 check-outs to the members of the department of Freshman Engineering (Faculty, Freshmen and Staff) the following results were found:

Of the total sample, the Faculty accounted for approximately 1% of the loans, the Undergraduates 99%, and the staff an insignificant percentage.

In general, it is obvious that the range of reading in Freshman Engineering is much wider than in the other groups studied. The highest and only large concentration was in the Engineering and Allied Operations category, which alone represented 22% of all the check-outs. The following tables illustrate this pattern for Freshman Engineering, which reflects their enrollment in basic core courses common to the Engineering professional schools.

Table 9.1

Classification	No. of Loans	% of Total
000 Generalities	20	1.7
100 Philosophy	107	9.0
200 Religion	19	1.6
300 Social Sciences	199	16.7
400 Language	13	1.1
500 Pure Sciences	159	13.3
600 Technology	381	32.0
700 Arts	91	7.6
800 Literature	126	10.6
900 General Geography & History	76	6.4
	1191	100.0

Table 9.2

Engineering and Allied Operations

620 (21.7%)

Classification	No. of Loans	% of Total
620 Engineering	22	1.8
621 Applied physics	100	8.4
622 Mining engineering	1	.1
623 Military and nautical engineering	4	.3
624 Civil engineering	31	2.6
625 Railroads, roads, highways	3	.3
626 Waterways	3	.3
627 Hydraulic engineering	17	1.4
628 Sanitary & municipal engineering	8	.7
629 Other branches of engineering	69	5.8
	258	21.7

To illustrate the comparatively balanced breakdown of the reading of students and faculty in Freshman Engineering the following tables show the Social Sciences and Pure Sciences categories.

Table 9.3

Social Sciences

300 (16.7%)

Classification	No. of Loans
300 Social Sciences	71
320 Social Sciences	8
330 Economics	20
340 Law	10
350 Public Administration	23
360 Social Pathology	39
370 Education	16
380 Commerce	5
390 Customs and Folklore	7
	199

Table 9.4

Pure Sciences

500 (13.3%)

Classification	No. of Loans
500 Pure Sciences	8
510 Mathematics	33
520 Astronomy and allied sciences	5
530 Physics	46
540 Chemistry and allied sciences	35
550 Sciences of earth and other worlds	18
560 Paleontology	0
570 Life sciences	6
580 Botanical sciences	2
590 Zoological sciences	6
	159

Figure B-6, page 58, shows the user level breakdown for the three highest broad categories: Technology 32% (600), Pure Sciences 13.3% (500), and Social Sciences 16.7% (300).

10. THE SCHOOL OF INDUSTRIAL ENGINEERING

From a sample of 820 loans to the members of the School of Industrial Engineering (Faculty, Graduate, Undergraduate, Staff, and Other), the following results were found:

Of the total sample, the Faculty accounted for approximately 9% of the loans, Graduate Students 52%, Undergraduates 36%, and Staff 3%.

Three broad subject classes, Pure Sciences, 16.0%, Social Sciences, 20.1%, and Technology and Applied Sciences, 51.1%, represented approximately 88.2% of the loans to members of the department.

In these divisions the chief concentrations were:

Table 10.1

Mathematics

510 (12.7%)

Classification	No. of Loans
510 Mathematics	13
511 Generalities	2
512 Algebra	10
513 Arithmetic	0
514 Topology	0
515 Analysis	4
516 Geometry	0
517 Calculus (differential and integral)	15
518 Unassigned	0
519 Probabilities and applied mathematics	60
	104

Table 10.2

Engineering and Allied Operations

620 (18.5%)

Classification	No. of Loans
620 Engineering and allied operations	24
621 Applied physics	117
622 Mining engineering and related	1
623 Military and nautical engineering	0
624 Civil engineering	0
625 Railroads, roads, highways	0
626 Unassigned	0
627 Hydraulic engineering	0
628 Sanitary and municipal engineering	1
629 Other branches of engineering	9
	152

Table 10.3

Managerial Services

650 (20.8%)

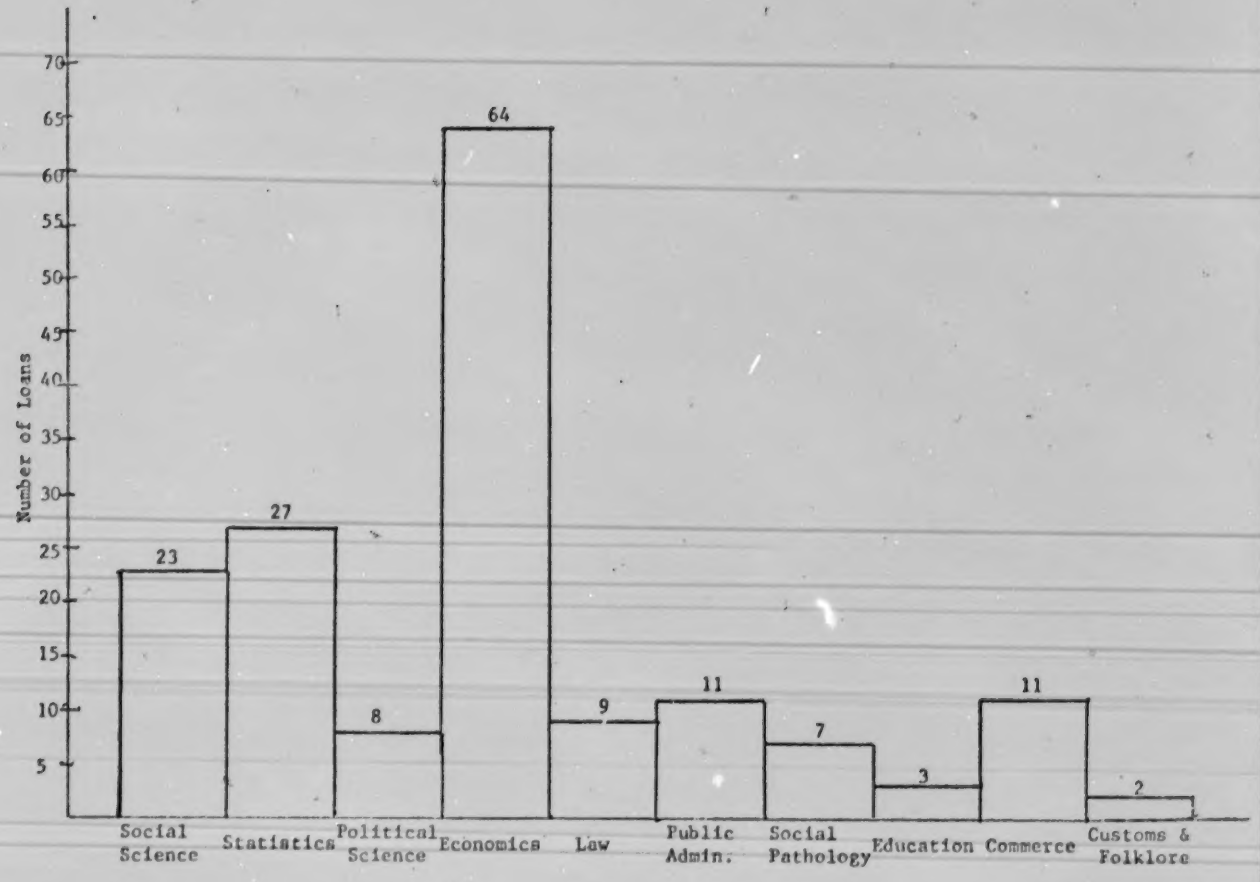
Classification	No. of Loans
650 Managerial services	3
651 Office services	5
652 Written communication processes	0
653 Shorthand	0
654 Telecommunication processes	1
655 Unassigned	0
656 Unassigned	0
657 Accounting	3
658 General management	159
659 Advertising and public relations	0
	171

The Social Sciences category, while accounting for 20.1% of the total distribution, is more evenly distributed and does not exhibit exceedingly high clusters in absolute numbers. The only comparatively high frequency is in Economics (330).

Table 10.4

Social Sciences

300



The remaining 11.8% was represented by:

000 Generalities	2.7%
100 Philosophy	4.5%
200 Religion	.2%
700 Arts	.6%
800 Literature	1.1%
900 General Geography and History	2.7%

Figure B-7, page 59, shows the user level breakdown for the three significant fields, Technology and Applied Sciences, Pure Sciences, and Social Sciences. In all of the categories discussed it was found that check-outs were highest for Graduate Students, followed by the Undergraduates, Faculty, Staff, and Others.

11. DIVISION OF INTERDISCIPLINARY ENGINEERING

From a sample of 449 loans to the members of the Division of Interdisciplinary Engineering (Faculty, Graduate, Undergraduate, Staff and Other) the following results were found:

Of the total sample the Faculty accounted for approximately 1% of the loans, Graduate Students .5%, Undergraduates 97.8%, Staff .5%, and Other .2%.

Three broad subject classes, Technology and Applied Sciences, 43.4%, Pure Sciences, 18.9%, and Social Sciences, 15.1%, represented approximately 77.4% of the loans to the members of the division.

In these divisions the chief concentrations were:

Table 11.1

Mathematics

510 (5.0%)

Classification	No. of Loans
510 Mathematics	2
511 Generalities	0
512 Algebra	6
513 Arithmetic	0
514 Topology	0
515 Analysis	2
516 Geometry	2
517 Calculus (differential and integral)	5
518 Unassigned	0
519 Probabilities and applied mathematics	5
	22

Table 11.2

Physics

530 (8.0%)

Classification	No. of Loans
530 Physics	4
531 Mechanics	5
532 Mechanics of fluids	6
533 Mechanics of gases	1
534 Sound and related vibrations	5
535 Visible light and paraphotic	0
536 Heat	4
537 Electricity and electronics	2
538 Magnetism	0
539 Modern physics	8
	35

Table 11.3

Engineering and Allied Operations

620 (27.0%)

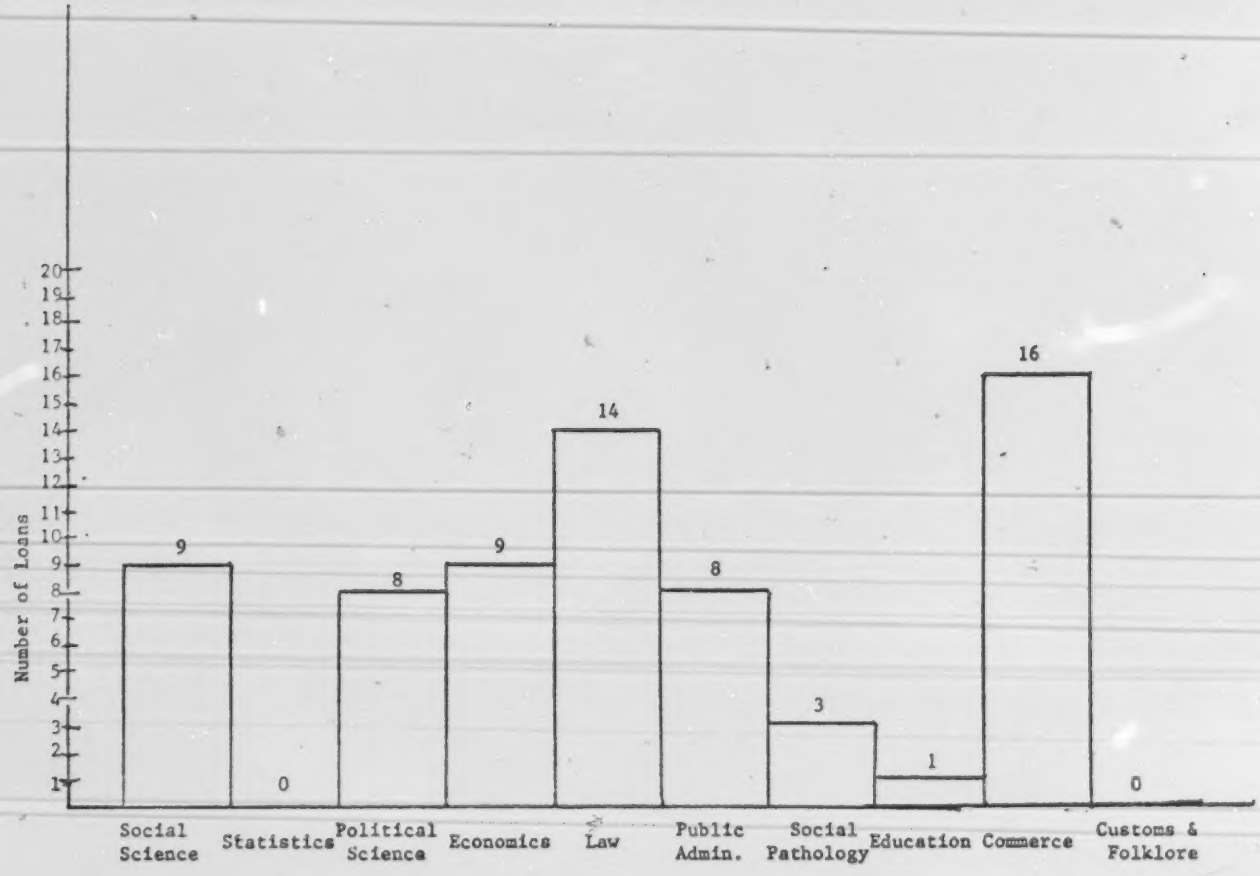
Classification	No. of Loans
620 Engineering and allied operations	31
621 Applied physics	41
622 Mining engineering and related	3
623 Military and nautical engineering	1
624 Civil engineering	2
625 Railroads, roads, highways	10
626 Waterways	0
627 Hydraulic engineering	4
628 Sanitary and municipal engineering	15
629 Other branches of engineering	15
	122

The Social Science category (300), while representing 15.1% of the distribution, was rather widely dispersed, with Commerce (380) accounting for 3.6% of the total for Interdisciplinary Engineering and Law (340) accounting for 3.1% of the distribution. The remaining 8.4% was spread over the other Social Sciences.

Table 11.4

Social Sciences

300



The remaining 22.6% was represented by:

000 Generalities	1.3%
100 Philosophy	5.6%
200 Religion	.7%
400 Language	.7%
700 Arts	2.5%
800 Literature	3.1%
900 General Geography and History	8.7%

Figure B-8, page 60, shows the user level breakdown for the three significant fields, Technology and Applied Sciences, Pure Sciences, and Social Sciences. In all of the significant categories, undergraduate check-outs were the highest (in two cases 100%). Apparently this result is related to the special nature of Interdisciplinary Engineering. The faculty comes from each of the Schools of Engineering, and therefore, are not identified in the study as belonging to Interdisciplinary Engineering as such. Also, according to the 1974-75 Enrollment Report, Interdisciplinary Engineering had only one Graduate Student in 1974-75. This may explain the low figures for this category.

12. THE SCHOOL OF MATERIALS ENGINEERING

From a sample of 297 loans to the members of the School of Materials Engineering (Faculty, Graduate, Undergraduate, Staff, and Other), the following results were found:

Of the total sample, the Faculty accounted for approximately 13% of the loans, Graduate Students 49%, Undergraduates 36%, and Staff 2%.

Two broad subject classes, Pure Sciences, 40.8%, and Technology and Applied Sciences, 45.8%, represented approximately 86.6% of the loans to the members of the school.

In these divisions the chief concentrations were:

Table 12.1

Physics

530 (14.5%)

Classification	No. of Loans
530 Physics	11
531 Mechanics	5
532 Mechanics of fluids	3
533 Mechanics of gases	2
534 Sound and related vibrations	0
535 Visible light and paraphotic	2
536 Heat	0
537 Electricity & electronics	8
538 Magnetism	6
539 Modern physics	6
	43

Table 12.2

Chemistry and Allied Sciences

540 (22.6%)

Classification	No. of Loans
540 Chemistry and allied sciences	0
541 Physical and theoretical chemistry	39
542 Laboratories, apparatus, equipment	0
543 General analysis	1
544 Qualitative analysis	3
545 Quantitative analysis	0
546 Inorganic chemistry	10
547 Organic chemistry	0
548 Crystallography	14
549 Mineralogy	0
	67

Table 12.3

Engineering and Allied Operations

620 (18.5%)

Classification	No. of Loans
620 Engineering and allied operations	24
621 Applied physics	9
622 Mining engineering and related	17
623 Military and nautical engineering	4
624 Civil engineering	0
625 Railroads, roads, highways	0
626 Waterways	0
627 Hydraulic engineering	0
628 Sanitary and municipal engineering	1
629 Other branches of engineering	0
	55

Table 12.4

Chemical and Related Technologies

660 (24.2%)

Classification	No. of Loans
660 Chemical and related technologies	11
661 Industrial chemicals	3
662 Explosives, fuels, related products	1
663 Beverage technology	1
664 Food technology	0
665 Industrial oils, fats, waxes, gases	0
666 Ceramic and allied technologies	4
667 Cleaning, color and related	1
668 Other ogranic products	1
669 Metallurgy	50
	72

The remaining 13.4% was represented by:

100 Philosophy	.3%
200 Religion	3.7%
300 Social Sciences	4.7%
400 Language	.3%
700 Arts	.7%
800 Literature	1.0%
900 General Geography and History	2.7%

Figure B-9, page 61, shows the user level breakdown for the two significant categories discussed, Technology and Applied Sciences, and Pure Sciences. In both cases the Graduate Students accounted for the highest percentage of check-outs. In the case of Technology and Pure Sciences, the familiar pattern of Graduate Student, Undergraduate, Faculty, was observed; however, in the Pure Sciences, the Faculty was the next highest, followed by Undergraduates, and Staff.

13. THE SCHOOL OF MECHANICAL ENGINEERING

From a sample of 1967 loans to the members of the School of Mechanical Engineering (Faculty, Graduate, Undergraduate, Staff, and Other), the following results were found:

Of the total sample, the Faculty accounted for approximately 12% of the loans, Graduate Students 47%, Undergraduates 37%, Staff 4%. The "Other" category was insignificant.

Two broad subject classes, Technology and Applied Sciences, 47.7%, and Pure Sciences, 37.1%, represented 84.8% of the loans to members of the department.

In these divisions, the chief concentrations were:

Table 13.1 -

Mathematics
510 (8.7%)

Classification	No. of Loans
510 Mathematics	29
511 Generalities	1
512 Algebra	12
513 Arithmetic	4
514 Unassigned	0
515 Analysis	8
516 Geometry	5
517 Calculus (differential and integral)	83
518 Unassigned	0
519 Probabilities and applied mathematics	30
	172

Table 13.2

Physics

530 (22.9%)

Classification	No. of Loans
530 Physics	50
531 Mechanics	44
532 Mechanics of fluids	118
533 Mechanics of gases	22
534 Sound and related vibrations	51
535 Visible light and paraphotic	46
536 Heat	83
537 Electricity and electronics	17
538 Magnetism	9
539 Modern physics	10
	450

Table 13.3

Engineering and Allied Operations

620 (33.8%)

Classification	No. of Loans
620 Engineering and allied operations	142
621 Applied physics	305
622 Mining engineering	8
623 Military and nautical engineering	12
624 Civil engineering	9
625 Railroads, roads, highways	27
626 Waterways	0
627 Hydraulic engineering	3
628 Sanitary and municipal engineering	24
629 Other branches of engineering	135
	665

The remaining 15.2% was represented by:

000 Generalities	1.0%
100 Philosophy	1.4%
200 Religion	.4%
300 Social Sciences	4.3%
400 Language	.1%
700 Arts	3.0%
800 Literature	2.9%
900 General Geography and History	2.1%

Figure B-10, page 62, shows the user level breakdown for the two significant fields discussed, Technology and Applied Sciences, and Pure Sciences. In both of these categories it was found that Graduate Students accounted for the highest percentage of check-outs, followed by the Undergraduates, Faculty, Staff, and Others.

14. THE SCHOOL OF NUCLEAR ENGINEERING

From a sample of 406 loans to the members of the School of Nuclear Engineering (Faculty, Graduate, Staff and Other), the following results were found:

Of the total sample, the Faculty accounted for approximately 7.2% of the loans, Graduate Students 88.4%, Undergraduates .7%, Staff 3.5%, and Other .2%. *

Two broad subject classes, Technology and Applied Sciences, 38.5%, and Pure Sciences, 47.3%, represented approximately 85.8% of the loans to members of the department.

In these divisions, the chief concentrations were:

Table 14.1

Mathematics

510 (10.1%)

Classification	No. of Loans
510 Mathematics	7
511 Generalities	0
512 Algebra	2
513 Arithmetic	0
514 Topology	0
515 Analysis	2
516 Geometry	0
517 Calculus (differential and integral)	19
518 Unassigned	0
519 Probabilities and applied mathematics	11
	41

* The small percentage (.7) of undergraduates represents those students who were taking a substantial number of courses in Nuclear Engineering but were not degree candidates. At that time an undergraduate degree was not offered in Nuclear Engineering.

Table 14.2

Physics

530 (32.3%)

Classification	No. of Loans
530 Physics	15
531 Mechanics	7
532 Mechanics of fluids	16
533 Mechanics of gases	3
534 Sound and related vibrations	1
535 Visible light and paraphotic	0
536 Heat	20
537 Electricity and electronics	2
538 Magnetism	0
539 Modern physics	67
	131

Table 14.3

Engineering and Allied Operations

620 (28.3%)

Classification	No. of Loans
620 Engineering and allied operations	25
621 Applied physics	77
622 Mining engineering and related	0
623 Military and nautical engineering	0
624 Civil engineering	0
625 Railroads, roads, highways	0
626 Waterways	0
627 Hydraulic engineering	0
628 Sanitary and municipal engineering	4
629 Other branches of engineering	9
	115

The remaining 14.2% was accounted for by:

000 Generalities	4.2%
100 Philosophy	1.2%
300 Social Sciences	3.4%
700 Arts	2.7%
800 Literature	1.5%
900 General Geography and History	1.2%

Figure B-11, page 63, shows the user level breakdown for the two significant fields Technology and Applied Sciences, and Pure Sciences. In both of these categories the Graduate Students accounted for the highest percentage of check-outs, followed by the Faculty, Staff, and Other.

APPENDIX A

SUMMARY STATISTICS

Table A-1

Library Loans by Subject

School	Generalities (000)	Philosophy (100)	Religion (200)	Social Sciences (300)	Language (400)	Pure Sciences (500)	Technology (600)	Arts (700)	Literature (800)	Geography & History (900)	Total Sample
Engrg. Admin.	3	2	0	3	7	32	23	15	23	4	112
Aero. & Astro.	11	6	3	81	1	316	564	32	36	24	1074
Chemical Engrg.	2	7	4	26	1	536	445	3	15	11	1050
Civil Engrg.	15	24	4	278	15	475	1223	118	38	41	2231
Electrical Engrg.	149	65	30	136	13	673	1081	64	81	50	2342
Freshman Engrg.	20	107	19	199	13	159	381	91	126	76	1191
Industrial Engrg.	22	37	2	165	0	131	427	5	9	22	820
Interdisc. Engrg.	6	25	3	68	3	85	195	11	14	39	449
Materials Engrg.	0	1	11	14	1	121	126	2	3	8	297
Mechanical Engrg.	18	28	7	85	2	730	938	60	57	42	1967
Nuclear Engrg.	17	5	0	14	0	192	156	11	6	5	406
Total	263	307	83	1069	56	3450	5569	412	408	322	11,939
% Total	2.2	2.6	.7	9.0	.5	28.9	46.6	3.4	3.4	2.7	100.0

Table A-2

Library Loans by Subject
(Percent Distribution)

School	Generalities (000)	Philosophy (100)	Religion (200)	Social Sciences (300)	Language (400)	Pure Sciences (500)	Technology (600)	Arts (700)	Literature (800)	Geography & History (900)	Total %	Sample Size
Engrg. Admin.	2.7	1.8	0	2.7	6.2	28.6	20.5	13.4	20.5	3.6	100	112
Aero. & Astro.	1.1	.5	.3	7.5	.1	29.4	52.5	3.0	3.4	2.2	100	1074
Chemical Engrg.	.2	.7	.4	2.5	.1	51.0	42.4	.3	1.4	1.0	100	1050
Civil Engrg.	.7	1.1	.1	12.5	.7	21.3	54.8	5.3	1.7	1.8	100	2231
Electrical Engrg.	6.4	2.8	1.3	5.8	.6	28.7	46.2	2.7	3.4	2.1	100	2342
Freshman Engrg.	1.7	9.0	1.6	16.7	1.1	13.3	32.0	7.6	10.6	6.4	100	1191
Industrial Engrg.	2.7	4.5	.2	20.1	0	16.0	52.1	.6	1.1	2.7	100	820
Interdisc. Engrg.	1.3	5.6	.7	15.1	.7	18.9	43.4	2.5	3.1	8.7	100	449
Materials Engrg.	0	.3	3.7	4.7	.3	40.8	45.8	.7	1.0	2.7	100	297
Mechanical Engrg.	1.0	1.4	.4	4.3	.1	37.1	47.7	3.0	2.9	2.1	100	1967
Nuclear Engrg.	4.2	1.2	0	3.4	0	47.3	38.5	2.7	1.5	1.2	100	406
% Total	2.2	2.6	.7	9.0	.5	28.9	46.6	3.4	3.4	2.7	100	11,939

Table A-3

Library Loans in the Subject of
Technology and Applied Sciences

School	Technology (600)	Medical Sciences (610)	Engineering (620)	Agriculture (630)	Domestic Arts (640)	Managerial Services (650)	Chemical Technologies (660)	Manufactures (670)	Miscellaneous Manufactures (680)	Buildings (690)	Total
Engrg. Admin.	0	0	17	0	0	3	3	0	0	0	23
Aero. & Astro.	3	10	526	2	2	11	7	1	0	2	564
Chemical Engrg.	0	15	79	3	0	13	319	11	1	4	445
Civil Engrg.	12	61	792	22	7	36	128	39	3	123	1223
Electrical Engrg.	6	93	845	0	19	69	32	8	5	4	1081
Freshman Engrg.	6	55	258	14	9	10	23	1	0	5	381
Industrial Engrg.	0	53	152	2	3	171	15	27	0	4	427
Interdisc. Engrg.	5	34	122	4	0	13	7	1	5	4	195
Materials Engrg.	0	0	55	2	0	1	72	6	0	0	136
Mechanical Engrg.	7	85	665	12	9	12	114	4	10	20	938
Nuclear Engrg.	0	9	115	1	0	3	26	2	0	0	156
Total	39	415	3626	62	49	342	746	24	24	166	5569

Table A-4

Library Loans in the Subject of Technology and Applied Sciences (Percent Distribution)

School	Technology (600)	Medical Sciences (610)	Engineering (620)	Agriculture (630)	Domestic Arts (640)	Managerial Services (650)	Chemical Technologies (660)	Manufactures (670)	Miscellaneous Manufactures (680)	Buildings (690)	% of School Sample	School Sample
Engrg. Admin.	0	0	15.2	0	0	2.6	2.7	0	0	0	20.5	112
Aero. & Astro.	.3	.9	49.0	.2	.2	1.0	.6	.1	0	.2	52.5	1074
Chemical Engrg.	0	1.4	7.5	.3	0	1.2	30.4	1.1	.1	.4	42.4	1050
Civil Engrg.	.5	2.7	35.5	1.0	.3	1.6	5.7	1.8	.1	5.6	54.8	2231
Electrical Engrg.	.2	3.9	36.1	0	1.0	2.9	1.4	.3	.2	.2	46.2	2343
Freshman Engrg.	.5	4.6	21.7	1.2	.8	.8	1.9	.1	0	.4	32.0	1191
Industrial Engrg.	0	6.5	18.5	.3	.4	20.8	1.8	3.3	0	.5	52.1	820
Interdisc. Engrg.	1.1	7.6	27.0	.9	0	3.0	1.6	.2	1.1	.9	43.4	449
Materials Engrg.	0	0	18.5	.7	0	.4	24.2	2.0	0	0	45.8	297
Mechanical Engrg.	.4	4.3	33.8	.6	.5	.6	5.8	.2	.5	1.0	47.7	1967
Nuclear Engrg.	0	2.2	28.3	.3	0	.8	6.4	.5	0	0	38.5	406
All Schools % Total Loans	.3	3.5	30.4	.5	.4	2.9	6.2	.8	.2	1.4	46.6	11,939

Table A-5

Library Loans in the Subject of Pure Sciences

School	Pure Sciences (500)	Mathematics (510)	Astronomy (520)	Physics (530)	Chemistry (540)	Earth Sciences (550)	Paleontology (560)	Life Sciences (570)	Botanical Sciences (580)	Zoological Sciences (590)	Total
Engrg. Admin.	2	2	0	20	2	6	0	0	0	0	32
Aero. & Astro.	5	117	16	159	4	9	0	4	0	2	316
Chemical Engrg.	6	96	1	129	254	1	0	36	12	1	536
Civil Engrg.	6	168	55	109	35	57	5	35	5	0	475
Electrical Engrg.	6	362	9	257	9	10	0	10	2	8	673
Freshman Engrg.	8	33	5	46	35	18	0	6	2	6	159
Industrial Engrg.	3	104	4	13	3	0	0	4	0	0	131
Interdisc. Engrg.	3	22	7	35	5	4	0	5	2	2	85
Materials Engrg.	1	2	6	43	67	0	0	2	0	0	121
Mechanical Engrg.	9	172	4	450	51	26	0	2	3	13	730
Nuclear Engrg.	2	41	0	131	16	1	0	0	1	0	192
Total	51	1119	107	1392	481	132	5	104	27	32	3450

Table A-6

Library Loans in the Subject of Pure Sciences (Percent Distribution)

School	Pure Sciences (500)	Mathematics (510)	Astronomy (520)	Physics (530)	Chemistry (540)	Earth Sciences (550)	Paleontology (560)	Life Sciences (570)	Botanical Sciences (580)	Zoological Sciences (590)	% of School Sample	School Sample
Engrg. Admin.	1.8	1.8	0	17.8	1.8	5.4	0	0	0	0	28.6	112
Aero. & Astro.	.5	10.9	1.5	14.8	.4	.7	0	.4	0	.2	29.4	1074
Chem. Engrg.	.6	9.1	.1	12.3	24.2	.1	0	3.4	1.1	.1	51.0	1050
Civil Engrg.	.3	7.5	2.5	4.9	1.6	2.5	.2	1.6	.2	0	21.3	2231
Electrical Engrg.	.2	15.5	.4	11.0	.4	.4	0	.4	.1	.3	28.7	2342
Freshman Engrg.	.7	2.8	.4	3.8	2.9	1.5	0	.5	.2	.5	13.3	1191
Industrial Engrg.	.4	12.7	.5	1.5	.4	0	0	.5	0	0	16.0	820
Interdisc. Engrg.	.6	5.0	1.5	8.0	1.1	.9	0	1.0	.4	.4	18.9	449
Materials Engrg.	.3	.7	2.0	14.5	22.6	0	0	.7	0	0	40.8	297
Mechanical Engrg.	.4	8.7	.2	22.9	2.6	1.3	0	.1	.2	.7	37.1	1967
Nuclear Engrg.	.5	10.1	0	32.3	4.0	.2	0	0	.2	0	47.3	406
All Schools % Total Loans	.4	9.4	.9	11.7	4.0	1.1	*	.9	.2	.3	28.9	11,939

* less than .1%

Table A-7

Percent Distribution of
Pure Sciences and Technology Combined

School	% of Total Loans
Engrg. Administration	49.1
Aero. and Astro.	81.9
Chemical Engineering	93.4
Civil Engineering	76.1
Electrical Engineering	74.9
Freshman Engineering	45.3
Industrial Engineering	68.1
Interdisciplinary Engineering	62.3
Materials Engineering	86.6
Mechanical Engineering	84.8
Nuclear Engineering	85.8

Table A-8

Library Loans by Level of User
(Percent Distribution)

School	Faculty	Graduate Student	Undergraduate	Staff	Other	Total
Engrg. Admin.	80.0	1.0	0	15.0	4.0	100.0
Aero. & Astro.	13.0	43.0	37.0	6.0	1.0	100.0
Chemical Engrg.	12.0	62.0	22.0	4.0	*	100.0
Civil Engrg.	11.0	50.0	33.0	5.0	1.0	100.0
Electrical Engrg.	13.0	54.0	29.0	4.0	*	100.0
Freshman Engrg.	1.0	0	99.0	0	0	100.0
Industrial Engrg.	9.0	52.0	36.0	3.0	0	100.0
Interdisc. Engrg.	1.0	.6	97.8	.6	*	100.0
Materials Engrg.	13.0	49.0	36.0	2.0	0	100.0
Mechanical Eng.	12.0	47.0	37.0	4.0	*	100.0
Nuclear Engrg.	7.0	88.0	1.0	4.0	*	100.0
Total Schools	10.7	44.9	40.3	3.7	.4	100.0

* less than .1%

APPENDIX B

SUMMARY FIGURES

Figure B-1

Loans to Schools of Engineering Administration

Key

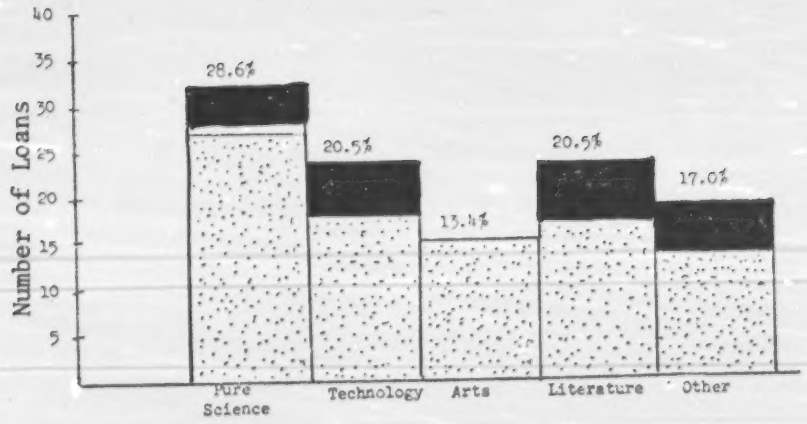
= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department



Users	Usage % of total loans
Faculty	80
Graduate	1
Undergraduate	0
Staff & Other	19

Figure B-2

Loans to School of Aeronautics & Astronautics

Key

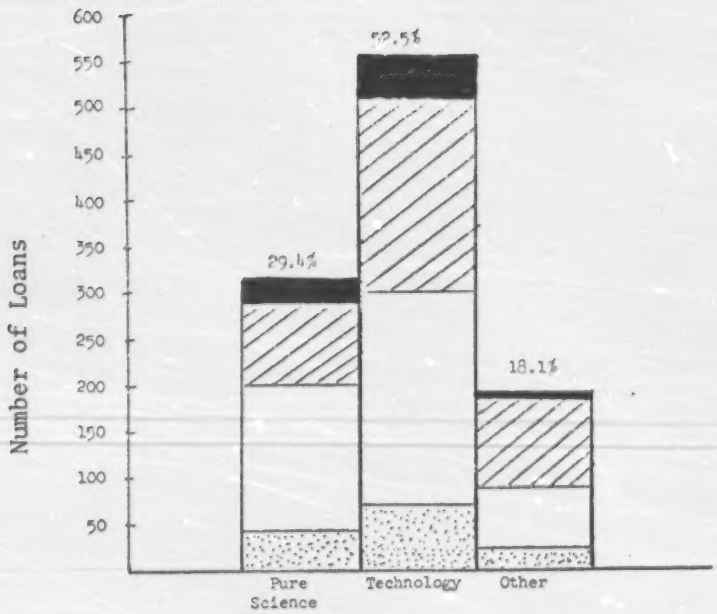
= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department



Users	Usage % of total loans
Faculty	13
Graduate	43
Undergraduate	37
Staff & Other	7

Figure B-3

Loans to School of Chemical Engineering

Key

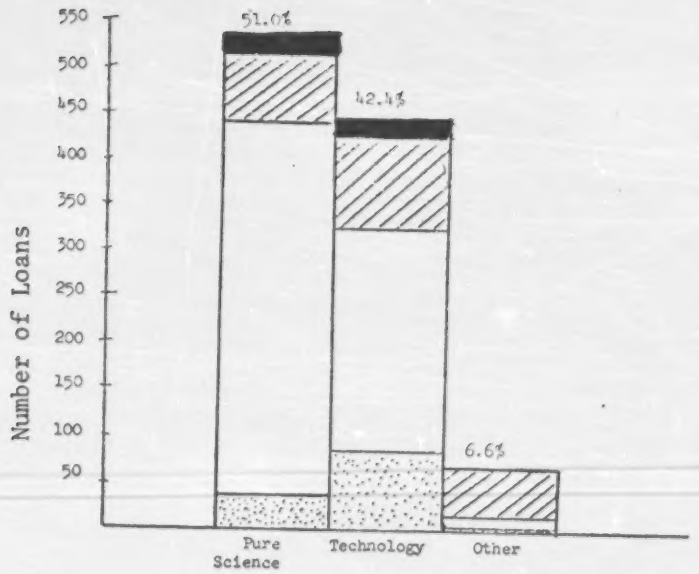
= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department



Usage

Users	% of Total Loans
Faculty	12
Graduate	62
Undergraduate	22
Staff & Other	4

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Figure B-4

Loans to School of Civil Engineering

Key

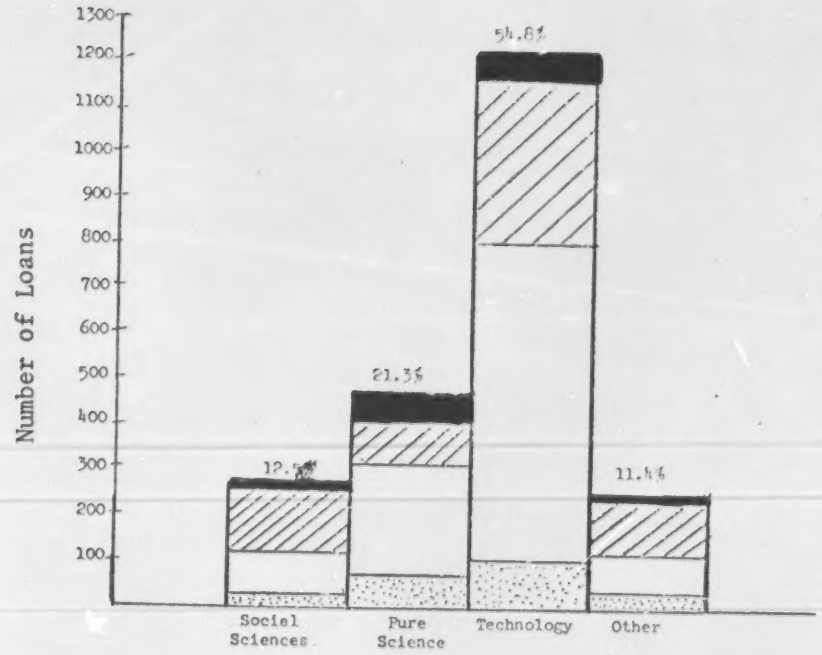
= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department



Usage

Users	% of Total Loans
Faculty	11
Graduate	50
Undergraduate	33
Staff & Other	6

Figure B-5

Loans to School of Electrical Engineering

Key

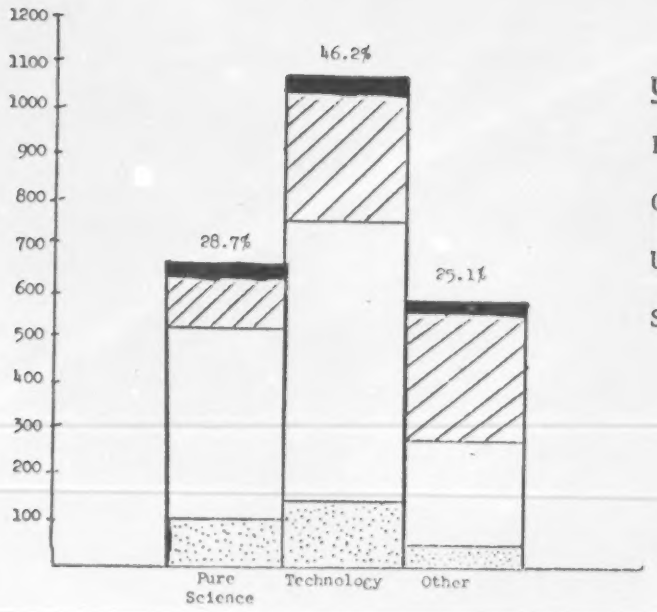
= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department



Usage

Users	% of Total Loans
Faculty	13
Graduate	54
Undergraduate	29
Staff & Other	4

Figure B-6

Loans to Freshman Engineering

Key

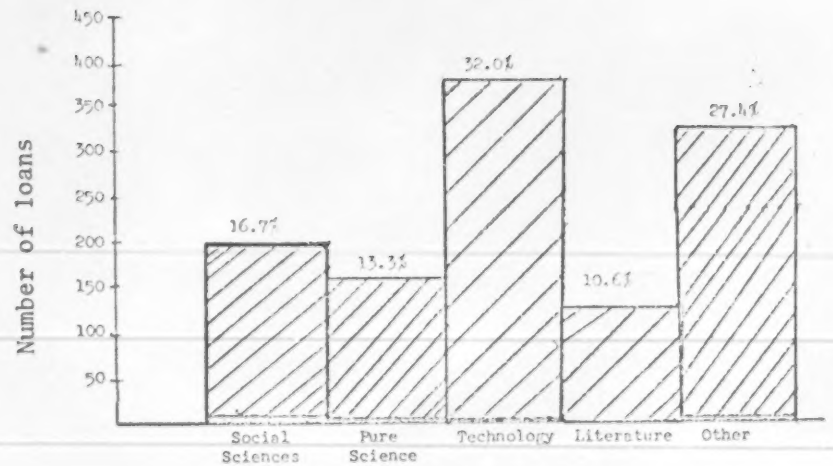
= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department



Usage

Users	% of Total Loans
Faculty	1
Graduate	0
Undergraduate	99
Staff & Other	insignificant

Figure B-7

Loans to School of Industrial Engineering

Key

= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department

Usage

Users	% of Total Loans
Faculty	9
Graduate	52
Undergraduate	36
Staff & Other	3

Figure B-8

Loans to Interdisciplinary Engineering

Key

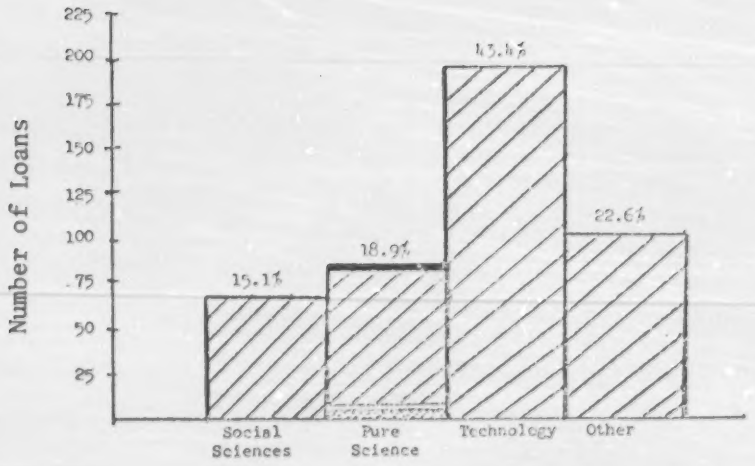
= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department



Usage

Users	% of Total Loans
Faculty	1.0
Graduate	.5
Undergraduate	97.8
Staff & Other	.7

Figure B-9

Loans to School of Materials Engineering

Key

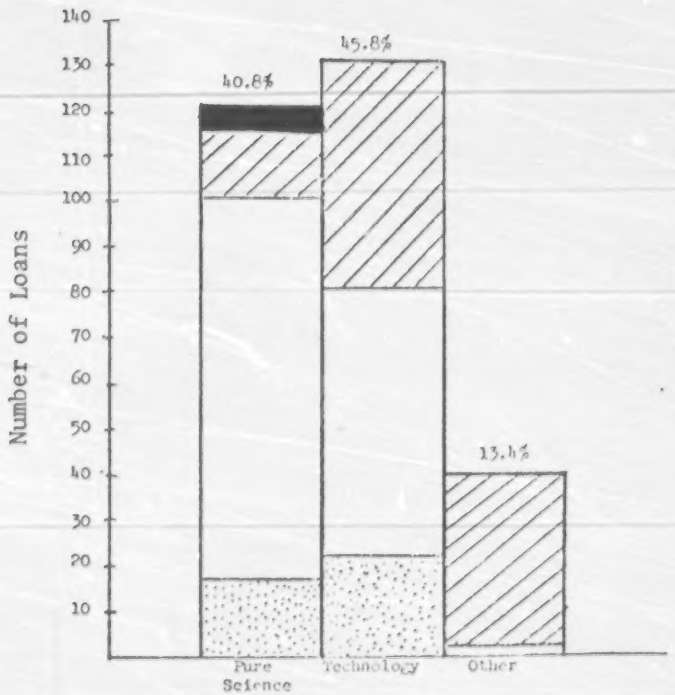
= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department



Usage

Users	% of Total Loans
Faculty	13
Graduate	49
Undergraduate	36
Staff & Other	2

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Figure B-10

Loans to School of Mechanical Engineering

Key

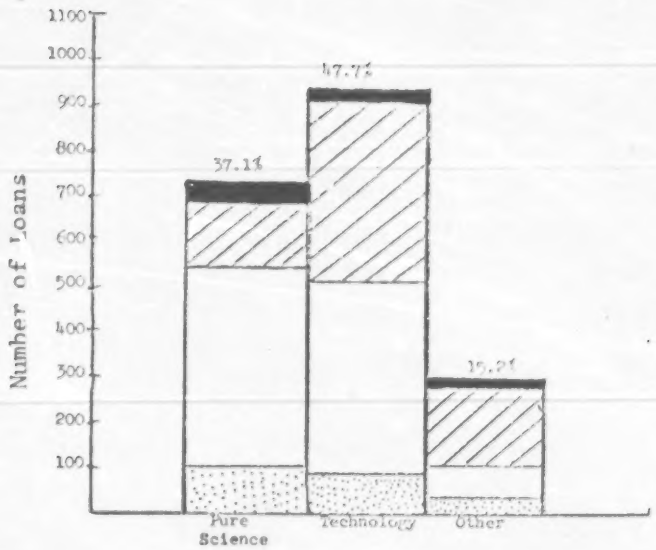
= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department



Usage

Users	% of Total Loans
Faculty	12
Graduate	47
Undergraduate	37
Staff & Other	4

Figure B-11

Loans to School of Nuclear Engineering

Key

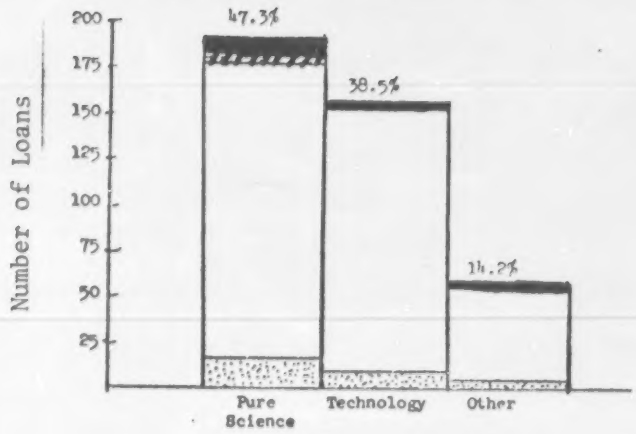
= Faculty

= Graduate

= Undergraduate

= Staff & Other

% = % of total loans to the department



Usage

Users	% of Total Loans
Faculty	7.2
Graduate	88.4
Undergraduate	.7
Staff & Other	3.7

APPENDIX C

DEWEY DECIMAL CLASSIFICATION SYSTEM

Table C-1

Dewey Decimal Classification System

000 Generalities

010 Bibliographies & catalogs
020 Library & information sciences
030 General encyclopedic works
040
050 General serial publications
060 General organizations & museology
070 Journalism, publishing, newspapers
080 General collections
090 Manuscripts & book rarities

100 Philosophy & related disciplines

110 Metaphysics
120 Knowledge, cause, purpose, man
130 Popular & parapsychology, occultism
140 Specific philosophical viewpoints
150 Psychology
160 Logic
170 Ethics (Moral philosophy)
180 Ancient, medieval, Oriental
190 Modern Western philosophy

200 Religion

210 Natural religion
220 Bible
230 Christian doctrinal theology
240 Christian moral & devotional
250 Local church & religious orders
260 Social & ecclesiastical theology
270 History & geography of church
280 Christian denominations & sects
290 Other religions & comparative

300 The social sciences

310 Statistics
320 Political science
330 Economics
340 Law
350 Public administration
360 Social pathology & services
370 Education
380 Commerce
390 Customs & folklore

400 Language

410 Linguistics
420 English & Anglo-Saxon languages
430 Germanic languages German
440 Romance languages French
450 Italian, Romanian, Rhaeto-Romanic
460 Spanish & Portuguese languages
470 Italic languages Latin
480 Hellenic Classical Greek
490 Other languages

500 Pure Sciences

510 Mathematics
520 Astronomy & allied sciences
530 Physics
540 Chemistry & allied sciences
550 Sciences of earth & other worlds
560 Paleontology
570 Life sciences
580 Botanical sciences
590 Zoological sciences

600 Technology (Applied sciences)

610 Medical sciences
620 Engineering and allied operations
630 Agriculture & related
640 Domestic arts & sciences
650 Managerial services
660 Chemical & related technologies
670 Manufactures
680 Miscellaneous manufactures
690 Buildings

700 The arts

710 Civic & landscape art
720 Architecture
730 Plastic arts Sculpture
740 Drawing, decorative & minor arts
750 Painting & paintings
760 Graphic arts Prints
770 Photography & photographs
780 Music
790 Recreational & performing arts

800 Literature (Belles-lettres)

810 American literature in English
820 English & Anglo-Saxon literatures
830 Literatures of Germanic languages
840 Literatures of Romance languages
850 Italian, Romanian, Rhaeto-Romanic
860 Spanish & Portuguese literatures
870 Italic languages literatures Latin
880 Hellenic languages literatures
890 Literatures of other languages

900 General geography & history

910 General geography Travel
920 General biography & genealogy
930 General history or ancient world
940 General history of Europe
950 General history of Asia
960 General history of Africa
970 General history of North America
980 General history of South America
990 General history of other areas